

REMARKS

Claims 1-10 are pending in this application. By this Amendment, Applicants amend claim 1 and cancel claims 11-21 without prejudice or disclaimer of the subject matter contained therein.

Claims 11-21 have been canceled since these claims are directed to a non-elected invention. Applicants reserve the right to file a Divisional Application to pursue prosecution of non-elected claims 11-21.

Claims 1-5, 9 and 10 were rejected under 35 U.S.C. §102(a) as being anticipated by Kim et al. (U.S. 6,087,763), Yoshio et al. (U.S. 6,307,305) or Kim et al. (U.S. 5,982,076). And claims 6-8 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kim et al. ('763), Yoshio et al. or Kim et al. ('076). Applicants respectfully traverse these rejections.

Claim 1 has been amended to recite:

“An electronic component comprising:
a piezoelectric element having electrodes at two end portions thereof; and
at least a pair of lead terminals having cup-shaped holder portions arranged to hold both end portions of the piezoelectric element;
a conductive joining material arranged such that the cup-shaped holder portions and the electrodes disposed at both end portions of the piezoelectric element are electrically and mechanically connected by the conductive joining material; and
wherein **each of the at least a pair of lead terminals is defined by a conductive wire having a diameter, one end portion of each of the at least a pair of lead terminals includes a portion that is bent at a bending point outward at an angle of about 90 degrees with respect to a lead portion of a respective one of said at least a pair of lead terminals, a flat portion is defined by a press extended portion on a tip side from the bending point so as to be extended substantially parallel to the lead portion of each of the pair of lead terminals, the flat portion includes a portion that is bent inwardly with respect to the portion that is bent outward at an angle of about 90 degrees to define the cup-shaped holder portion, and the flat portion has a thickness that is less than about 50% of the diameter of the conductive wire.**” (Emphasis added)

The present claimed invention including “each of the at least a pair of lead terminals is defined by a conductive wire having a diameter, one end portion of each of the at least a pair of lead terminals includes a portion that is bent at a bending point outward at an angle of about 90 degrees with respect to a lead portion of a respective one of said at least a pair of lead terminals, a flat portion is defined by a press extended portion on a tip side from the bending point so as to be extended substantially parallel to the lead portion of each of the pair of lead terminals, the flat portion includes a portion that is bent inwardly with respect to the portion that is bent outward at an angle of about 90 degrees to define the cup-shaped holder portion, and the flat portion has a thickness that is less than 50% of the diameter of the conductive wire” provides an electronic component having greatly improved capability to securely hold a piezoelectric element and greatly improved reliability of conductivity (see, for example, the last full paragraph on page 3 of the specification, as originally filed).

The Examiner alleged that Kim et al. ('763), Yoshio et al. and Kim et al. ('076) teach all of the features recited in claim 1. The Examiner also indicated that “the ‘wherein’ clause defining method steps has not been given patentable weight. An apparatus is defined by what it is, not how it is made.” Applicants respectfully disagree.

Contrary to the Examiner’s allegation that the “wherein” clause recited in claim 1 defines method steps, the “wherein” clause in claim 1 of the present application, as amended, clearly recites structural features, not method steps. Particularly, the “wherein” clause in claim 1 of the present application recites the following structure features:

- each of the at least a pair of lead terminals is defined by a conductive wire having a diameter;
- one end portion of each of the at least a pair of lead terminals includes a portion that is bent at a bending point outward at an angle of about 90 degrees with respect to a lead portion of a respective one of said at least a pair of lead terminals;

- a flat portion is defined by a press extended portion on a tip side from the bending point so as to be extended substantially parallel to the lead portion of each of the pair of lead terminals;
- the flat portion includes a portion that is bent inwardly with respect to the portion that is bent outward at an angle of about 90 degrees to define the cup-shaped holder portion; and
- the flat portion has a thickness that is less than about 50% of the diameter of the conductive wire.

Since each of the above-identified recitations are clearly structural, and not method steps, Applicants respectfully submit that the Examiner must give each of the structural recitations patentable weight.

In contrast to the present claimed invention, each of Kim et al. ('763), Yoshio et al. and Kim et al. ('076) teach lead terminals defined by flat terminals, not conductive wires having a diameter. Thus, Kim et al. ('763), Yoshio et al. and Kim et al. ('076) clearly fail to teach or suggest "each of the at least a pair of lead terminals is defined by a conductive wire having a diameter" as recited in the present claimed invention.

In addition, none of Kim et al. ('763), Yoshio et al. and Kim et al. ('076) teach or suggest any portion of the lead terminal that is defined by "a press extended portion". Thus, Kim et al. ('763), Yoshio et al. and Kim et al. ('076) clearly fail to teach or suggest "a flat portion is defined by **a press extended portion on a tip side from the bending point so as to be extended substantially parallel** to the lead portion of each of the pair of lead terminals" (emphasis added) as recited in the present claimed invention.

Furthermore, in each of Kim et al. ('763), Yoshio et al. and Kim et al. ('076), the lead terminals have a constant thickness at all portions thereof. None of the lead terminals taught by Kim et al. ('763), Yoshio et al. and Kim et al. ('076) include any portion having a thickness that is less than about 50% of the diameter of the lead terminals. Thus, Kim et al. ('763), Yoshio et al. and Kim et al. ('076) clearly fail to teach or suggest "the flat portion has a thickness that is less than about 50% of the diameter

of the conductive wire” as recited in the present claimed invention.

The Examiner further alleged that “the references each teach the actual final structural shapes claimed.” This is clearly incorrect. As described above, Kim et al. ('763), Yoshio et al. and Kim et al. ('076) clearly fail to teach or suggest “each of the at least a pair of lead terminals is defined by a conductive wire having a diameter”, “a flat portion is defined by a press extended portion on a tip side from the bending point so as to be extended substantially parallel to the lead portion of each of the pair of lead terminals” and “the flat portion has a thickness that is less than about 50% of the diameter of the conductive wire” as recited in the present claimed invention. Thus, contrary to the Examiner’s allegation, none of the cited prior art references teach or suggest “the actual final structural shapes claimed.”

With respect to claims 6-8, the Examiner alleged that “it has long been held that selection from among known materials, and optimization of a known device for a particular use are within the skill expected of the routineer. Thus to select specific dimensions and materials for Kim or Yoshio would have been obvious to one of ordinary skill in the art.” Applicants respectfully disagree.

MPEP 2144.05 indicates that “a particular parameter must first be recognized as a result-effective variable, i.e. a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation.” In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). Kim et al. ('763), Yoshio et al. and Kim et al. ('076) fail to teach or suggest anything at all regarding the specific material and dimensions of the lead terminals, and certainly fail to teach or suggest that the lead terminals could or should be made of a wire made of a low-carbon steel and having copper plated on a surface thereof and a molten solder plated on the copper plating, that the lead terminals could or should be made of a round lead wire of about 0.48 mm in diameter, that the a width of the flat portions could or should be about 0.8 mm to about 1.0 mm, or that a thickness of the flat portions could or should be about 0.15 mm to about 0.2 mm as recited in

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claims 6-8 of the present application. Thus, Applicant respectfully submits that it would not have been obvious to select specific dimensions and materials for Kim et al. ('763), Yoshio et al. or Kim et al. ('076), as alleged by the Examiner.

Accordingly, Applicants respectfully submit that Kim et al. ('763), Yoshio et al. and Kim et al. ('076), applied alone or in combination, fail to teach or suggest the unique combination and arrangement of elements recited in claim 1 of the present application.

In view of the foregoing remarks, Applicants respectfully submit that claim 1 is allowable. Claims 2-10 depend upon claim 1, and are therefore allowable for at least the reasons that claim 1 is allowable.

In view of the foregoing amendments and remarks, Applicants respectfully submit that this application is in condition for allowance. Favorable consideration and prompt allowance are respectfully solicited.

The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

Date: March 18, 2003


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